

2206 South Main Street Blacksburg, Virginia 24060 (540) 552-0444 • Fax (540) 552-0291 www.daa.com

April 16, 2014

Mr. Kevin Harlow Water Permit Writer DEQ-BRRO 3019 Peters Creek Road Roanoke, VA 24019



RE: Clifton Forge Water Treatment Plant

VPDES Permit No. VA0006076 Reissuance Application Draper Aden Associates Project No. B11101B-14A

Dear Mr. Harlow:

Enclosed please find a permit application to continue coverage under Virginia Pollution Discharge Elimination System (VPDES) Permit No. VA0006076 associated with the Clifton Forge Water Treatment Plant. Included in the application are EPA Form 1 and Form 2C as well as a completed Public Notice Billing Information Form. There is no fee to reapply for coverage under this permit.

As discussed with you previously via e-mail and telephone, Clifton Forge is planning to dredge accumulated sediment from the reservoir associated with the water treatment plant within the next five years. Therefore, operational activities associated with dredging as it relates to VPDES discharges into Smith Creek were incorporated into this permit application. Please note that dredging activities and dredge material management planning are currently underway and will be refined as the project progresses. Significant changes related to operations including dredging activities will be updated in the facility's Operations and Maintenance Manual, which details the practices and procedures which will be followed to ensure compliance with the requirements of the VPDES permit (Part I.B.3).

Additionally, as you know, discussions regarding sampling of the reservoir's accumulated sediment prior to removal and management are on-going with Clifton Forge and the Virginia Department of Environmental Quality (VDEQ). Sampling of discharges from the existing outfall was conducted to meet the requirements of the permit application and consistent with prior sampling conducted in 2009. Data from outfall sampling are included in the enclosed permit application. Additional data collected from accumulated sediment, if deemed necessary, will be provided to DEQ for review and consideration as it relates to this VPDES permit.

At this time, Clifton Forge is awaiting additional guidance from VDEQ regarding sediment sampling prior to initiating field efforts. In the interim, please review the enclosed permit application for reissuance under VPDES Permit No. VA0006076. Feel free to contact us or Clifton Forge if you have any questions or need additional information.

Sincerely,

DRAPER ADEN ASSOCIATES

Karen Weber, P.G. Senior Project Geologist

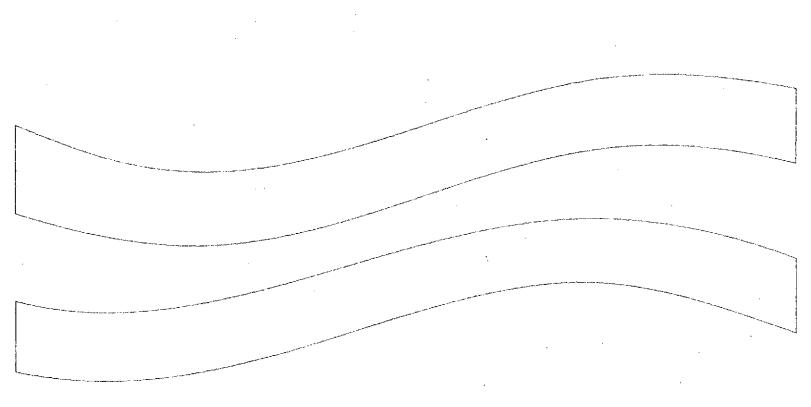
#### **Enclosure**

cc: Mr. Bobby Irvine, Plant Manager, Clifton Forge

Ms. Darlene Burcham, Town Manager, Clifton Forge

Mr. Randall Hancock, P.E., Consultant, Draper Aden Associates

Ms. Lori Kroll, Community Resource Specialist, Draper Aden Associates



Form Approved	OMB No.	2040-0086

lease print or t	ype in the unshad	ed areas only.				f	Form Approved, OMB No. 2040-0	086.					
FORM						ON AGENCY	I. EPA I.D. NUMBER						
1	<b>\$EPA</b>				IFORMA <sup>*</sup> Permits Prog		* VA0006076			T/A C			
GENERAL		(Read the "	Genera	al Instr	uctions" befo	ore starting )	1 2		13	14 16			
LABE	L ITEMS						GENERAL INSTRUCTIONS  If a preprinted label has been provided, affix it in the						
EDA I D	NUMBER						designated space. Review the inform is incorrect, cross through it and en-						
EPA I.D.	NOMBER	,				•	appropriate fill-in area below. Also, if is absent (the area to the left of	any of	the prep	printed data			
I. FACILITY	Y NAME	PLEASE	PLA(	CE LA	BEL IN THI	S SPACE	information that should appear), plea fill-in area(s) below. If the label is o	se prov	vide it ir	n the prope			
	Y MAILING					· ·	need not complete Items I, III, V, a must be completed regardless). Con	nd VI (	(except	VI-B which			
ADDRES	SS					·	has been provided. Refer to the ins descriptions and for the legal autho	truction	ns for d	letailed item			
I. FACILITY	Y LOCATION						data is collected.	ization	s under	WHICH GHS			
POLLUTAN	T CHARACTERIS	TICS				•							
ubmit this for ou answer *n-	m and the supple o" to each questio	mental form listed in the pare	nthesi these	s fallo	wing the qu s. You may	estion. Mark "X" in the box in answer "no" if your activity is e	he EPA. If you answer "yes" to ar the third column if the supplemer excluded from permit requirement	ital for	rm is a	ttached. If			
··· <del>·····</del>				Mari				F	Mark				
	SPECIFIC QL	JESTIONS	YES	NO	FORM ATTACHED	SPECIFIC	QUESTIONS	YES	NO	FORM ATTACHED			
		ned treatment works which ers of the U.S.? (FORM 2A)	5	×		include a concentrated	(either existing or proposed) animal feeding operation or tion facility which results in a		$\times$				
			16	17	18	discharge to waters of th	ne U.S.? (FORM 2B)	19	20	21			
		itly results in discharges to in those described in A or B		X			(other than those described in A sult in a discharge to waters of		$ \times $				
above? (FO			22	23	24	the U.S.? (FORM 2D)		25	26	27			
		reat, store, or dispose of					ect at this facility industrial or						
nazardous	wastes? (FORM	ان		$ $ $\wedge$		containing within one of	ow the lowermost stratum quarter mile of the well bore,		~				
			2B	29	30	underground sources of d		31	32	33			
or other fl	uids which are	s facility any produced water brought to the surface in				processes such as mining	at this facility fluids for special of sulfur by the Frasch process,						
		oil or natural gas production, ed recovery of oil or natural		X		fuel, or recovery of geothe	als, in situ combustion of fossil ermal energy? (FORM 4)		X				
gas, or inje (FORM 4)	ect fluids for store	age of liquid hydrocarbons?											
` ,	tv a proposed stat	tionary source which is one	34	35	36	.l Is this facility a propose	ed stationary source which is	37	38	39			
of the 28 inc	dustrial categories	listed in the instructions and		X	]	NOT one of the 28 ind	dustrial categories listed in the	-	$ \mathbf{x} $				
		00 tons per year of any air Clean Air Act and may affect		Ĺ			rill potentially emit 250 tons per egulated under the Clean Air Act						
or be locate	id in an attainment	t area? (FORM 5)	40	41 '	42	and may affect or be to (FORM 5)	ocated in an attainment area?	43	44	45			
II. NAME OF	FACILITY			!									
SKIP III		fton Forge Wate	ן ייי	l l	tment				I				
5 16 - 29 30	OWN OI CI.	Titon roige wate	5 L 1	.I Ca	CIIICIIC	FIGHT		69	#1) 				
V. FACILITY	CONTACT												
		A. NAME & TITLE (last	, first,	& title,	)		B. PHONE (area code & no.)	<b>—</b>					
Irvine	Robert.	Plant Manager	1	1 1			(540) 863-2522		1.				
5 16	,,					45	46 48 49 51 52-	55	<u>:</u>				
FACILTY MA	AILING ADDRESS												
		A. STREET OR P.	O. BC	X									
PO Box	: 631		1	1 1	1 1 1			;		3.			
5 16						45							
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		B. CITY OR TOWN		, I		<del></del>	D. ZIP CODE						
dcliftd	n Forge		'	1 1	1 1 1	' '   VA   2	4422 ' '						
16						40 41 42 47	51		_	200			
I. FACILITY		NEET BOUTE VO AS AS	D 6-	-01				,					
c   1   1		REET, ROUTE NO. OR OTHE	K SPE	EUIFIC	JUENTIFIE	-rt			A	Do.			
2500 5	Sulfer Spr	ing Road							~1 ~1	T 18			
5 16						45		$=$ $+_{\ell}$	<u></u>				
Alleghar	ny I I	B. COUNTY	NAM		ГТ	<del>                                     </del>		`	6	BRE			
16		C. CITY OR TOWN				D STATE	E. ZIP CODE F. COUNTY CO	ODE (	if know	27]			
	n Forge				111	<del></del>	4222 NA	705 (	y RHDWI	4			
5 16	m rorge					VA 24	4222 NA 51 52						
DA Form 2510	3.4.(0.00)					40 1 42 47	······································			DEVERS			

CONTINUED FROM THE FRONT	
VII. SIC CODES (4-digit, in order of priority)	D SECOND
A FIRST	B. SECOND
7 4941	[7]
C. THIRD	15 16 - 10 D. FOURTH
C (specify)	c (specify)
7	['[]
VIII. OPERATOR INFORMATION	[15] [16] - (9]
A. NAME	B. Is the name listed in Item
8 Town of Clifton Forge	VIII-A also the owner?  ☑ YES ☐ NO
15 16	55 68
C. STATUS OF OPERATOR (Enter the appropriate letter into the	
S = STATE P = PRIVATE  S = STATE O = OTHER (specify)	pecify) N/A A (540) 863-2500
56 STREET OR D.O. ROY	15 6 18 19 - 21 22 - 26
E. STREET OR P.O. BOX PO Box 631	
78	55
F. CITY OR TOWN	G. STATE H. ZIP CODE IX. INDIAN LAND
B Clifton Forge	VA 24422 ☐ YES ☑ NO
X. EXISTING ENVIRONMENTAL PERMITS	
	nissions from Proposed Sources)
9 N VA0006076 9 P N/A	
15 16 17 18 30 15 16 17 18	30
B. UIC (Underground Injection of Fluids)	E. OTHER (specify)
9 U N/A 9 N/A	1   1   1   1   (specify) N/A
15 16 17 18 30 15 18 17 18	E. OTHER (specify)
C. RCRA (Hazardous Wastes)	(specify) N/A
9 R N/A 9 N/A	(a)
15 16 17 19 30 15 16 17 18	30
XI. MAP	
	mile beyond property boundaries. The map must show the outline of the facility, the of its hazardous waste treatment, storage, or disposal facilities, and each well where it in the map area. See instructions for precise requirements.
XII. NATURE OF BUSINESS (provide a brief description)	
We are a municipal water treatment plant providing potal	ole water to the Town of Clifton Forge and Iron Gate.
Also the counties of Alleghany, Bath, and Botetourt.	•
1	·
	·
XIII. CERTIFICATION (see instructions)	
I certify under penalty of law that I have personally examined and am familiar with t inquiry of those persons immediately responsible for obtaining the information containing	the information submitted in this application and all attachments and that, based on my ained in the application, I believe that the information is true, accurate, and complete. I
am aware that there are significant penalties for submitting false information, including	
A. NAME & OFFICIAL TITLE (type or print) Darlene Burcham, Town Manager  B. SIGNATURE	
Town of Clifton Forge	Vere Bruchan 4-17-14
010	
COMMENTS FOR OFFICIAL USE ONLY	

EPA I.D. NUMBER (copy from Item 1 of Form 1)

VA0006076

Form Approved. OMB No. 2040-0086. Approval expires 3-31-98.

Please print or type in the unshaded areas only.

**FORM** 2C NPDES

# U.S. ENVIRONMENTAL PROTECTION AGENCY APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER EXISTING MANUFACTURING, COMMERCIAL, MINING AND SILVICULTURE OPERATIONS

Consolidated Permits Program

I. OUTFALL LOCATION							
For each outfall, list the	latitude and	longitude of it	s location to t	the nearest 15	seconds and	I the name of	the receiving water.
A. OUTFALL NUMBER		B. LATITUDE		C	. LONGITUD	Ε	·
(list)	1. DEG.	2. MIN.	3. SEC.	1. DEG.	2. MIN.	3. SEC.	D. RECEIVING WATER (name)
001	37N	23	00	79W	47	05	Smith Creek

#### II. FLOWS, SOURCES OF POLLUTION, AND TREATMENT TECHNOLOGIES

- A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined (e.g., for certain mining activities), provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.
- B. For each outfall, provide a description of: (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and storm water runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary

necess	sary.									
1. OUT-	2. OPERATION(S) (	CONTRIBUTING FLOW	3. TREATMENT							
FALL NO. (list)	a. OPERATION (list)	b. AVERAGE FLOW (include units)	a. DESCRIPTION		DES FROM .E 2C-1					
001	Filter Backwash	50,000 GPD	Treated water forced up through filters to	1	R					
			remove solids, are settled out and clear waste							
			discharged (per present permit)							
001	Sed Basin Cleanout	Not More than 150,000 GPD	Solids removed to settling pond then transfered	1	Ū					
		4 days per year	to long term storage pit (onsite) clear water							
			discharged (per permit)							
001	Mixing Basin Cleanout	25,000 GPD	Solids removed in exact manner as above.	1	0/U					
		2 days per year								
			•							
001	Dewatering Filter Discharge	240,000 gal/day	Filtrate Dewatering from dredged material flows	1	Q					
		90 days 1-time per permit	to settling pond							
		term only								
			·							
i										

OFFICIAL USE ONLY (effluent guidelines sub-categories)

	YES (complete	the follow	ing table)			NO (go to Se	ction III)						
					3. FR	EQUENCY			4. FLOW				
			ERATION(s)		a. DAYS PER WEEK	b. MONTHS	a. FLOW RA		(specify	VOLUME with units)	0.0000		
1. OUTFALL NUMBER (list)		CONTRIB	BUTING FLOV (list)	N	(specify average)	PER YEAR (specify average)	1. LONG TERM AVERAGE	2. MAXIMUM DAILY	1. LONG TERM AVERAGE	2. MAXIMUM DAILY	C. DURATIC (in days)		
01	Backwash				7	12	.050	.096	18.25 MG	35 MG	365		
01	Sed Basin (	Cleanout	t		4 days/yr	:	.150	.150	600 MG	.600 MG	4		
01	Mixing Basi	in Clear	nout	•	2 days/yr	,	. 025	.025	.050 MG	.050 MG	2		
01	Dewatering -1 time onl		Discharg	e	7	3	0.24	0.24	21.6 MG	21.6 MG	90		
. PRODUCTIO	I ON								L				
	uent guideline li	,	-	by EPA un	der Section 304 of	the Clean Water		ır facility?					
Are the limita	YES (complete ations in the ap			eline expres	sed in terms of pro			ration)?					
. If you answ	YES (complete ered "ves" to Ite		·	tity which r	epresents an actua	NO (go to Sea		production, ex	pressed in the	terms and unit	ts used in th		
	ffluent guideline		licate the aff	ected outfa	ls.								
			1. AV	'ERAGE DA	VILY PRODUCTION	N ION, PRODUCT	MATERIAL ET	·C		FECTED OUT			
a. QUANTITY	PER DAY 1	b. UNITS	OF MEASU	RE	C. OPERAT	(specify)	; WIATERIAL, ET	····	(list outfall numbers)				
									,				
	1												
				ł									
				!									
, IMPROVEM	IENTS												
					hority to meet any								
	itions, administi	rative or e	enforcement		orcement complian	ce schedule letti	ers, stipulations,						
	YES (complete	Ť	<u> </u>			<b>√</b> NO (go to Ite	m IV-B)						
	TION OF CONI EMENT, ETC.		2. AF	FECTED O	UTFALLS	3. BRIEF	DESCRIPTION	OF PROJECT	F 4. F	FINAL COMPL	IANCE DATE		
		+	a. NO.	b. SOURCE	OF DISCHARGE				a. F	REQUIRED 6	. PROJECTED		
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					any additional wa								

## EPA I.D. NUMBER (copy from Item 1 of Form 1)

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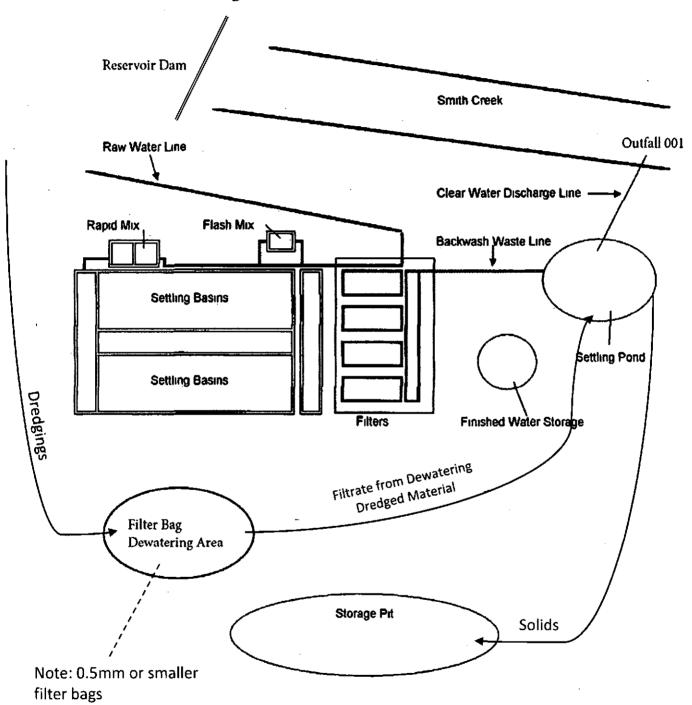
VA0006076

	eeding – Complete one set of tables for each I V-C are included on separate sheets numbe		space provided.
D. Use the space below to list any of the	a v-C are included on separate sneets number the pollutants listed in Table 2c-3 of the instruction of the instruction of the property of the present of	ctions, which you know or have reason to	
1. POLLUTANT	2. SOURCE	1. POLLUTANT	2. SOURCE
	İ		
			·
,			1
 VI. POTENTIAL DISCHARGES NOT CO	DVERED BY ANALYSIS		
	tance or a component of a substance which y		rmediate or final product or byproduct?
YES (list all such pollutan	ts below)	NO (go to Item VI-B)	
•			
			,
			,
			•
	•		

#### CONTINUED FROM THE FRONT

VII. BIOLOGICAL TOXICITY TESTING DATA			
Do you have any knowledge or reason to bel	ieve that any biological test for acute or chronic toxici	ty has been made on any of your di	scharges or on a receiving water in
relation to your discharge within the last 3 ye  YES (identify the test(s) and de		NO (go to Section VIII)	
TES QUARTE USE USE AND OR	ылое инп рагровез негом)	W NO go assessor viri	
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VIII. CONTRACT ANALYSIS INFORMATION			
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Were any of the analyses reported in Item V	performed by a contract laboratory or consulting firm?	•	
	nd telephone number of, and pollutants analyzed by.	NO (go to Section IX)	
each such laboratory or fü	mbelow)		
A. NAME	B. ADDRESS	C. TELEPHONE	D. POLLUTANTS ANALYZED
		(area code & no.)	(list)
Test America	4101 Shuffel Street NW North Canton, Ohio 44720	330-496-9396	See attached
	Notes cancon, onto 44720		
			1
Water Chemistry Inc.	3404 Aerial Way Drive	540-343-3618	
	Roanoke, VA 24018		
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		·	
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IX. CERTIFICATION			
	nent and all attachments were prepared under my din	ection or supervision in accordance	with a system designed to assure that
qualified personnel properly gather and ev	aluate the information submitted. Based on my inqu	iry of the person or persons who	manage the system or those persons
directly responsible for gathering the inform	ation, the information submitted is, to the best of my l information, including the possibility of fine and impris	knowledge and belief, true, accurate	e, and complete. I am aware that there
A. NAME & OFFICIAL TITLE (type or print)	<u> </u>	B. PHONE NO. (area code & no.)	
· · · · · ·			
Darlene Burcham, Town Manager		540-863-2	1200
C. SIGNATURE	<u>,                                      </u>	D. DATE SIGNED	
A. Bru	chan	D. DATE SIGNED	<u>.</u>
Jarlene Su	enen	<u> </u>	·
EPA Form 3510-2C (8-90)	PAGE 4 of 4		· · · · · · · · · · · · · · · · · · ·

# **Clifton Forge Water Treatment Plant Flow Schematic**



PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets (*use the same format*) instead of completing these pages, SEE INSTRUCTIONS.

EPA I.D. NUMBER (copy from Item 1 of Form 1)
VA006076

OUTFALL NO. V. INTAKE AND EFFLUENT CHARACTERISTICS (continued from page 3 of Form 2-C) PART A -You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details. 4. INTAKE 3. UNITS 2. EFFLUENT (specify if hlank) (optional) b. MAXIMUM 30 DAY VALUE c. LONG TERM AVRG. VALUE a. LONG TERM a. MAXIMUM DAILY VALUE (if available) AVERAGE VALUE (if available) b. NO. OF d. NO. OF a. CONCEN-(1) CONCENTRATION (1) CONCENTRATION (1) CONCENTRATION ANALYSES 1. POLLUTANT **ANALYSES** TRATION b. MASS (2) MASS (2) MASS (2) MASS (1) CONCENTRATION (2) MASS a. Biochemical Oxygen <2.0 1 mq/L Demand (BOD) b. Chemical Oxygen 1 mq/L <10 Demand (COD) c. Total Organic Carbon <1.0 1 mq/L (TOC) d. Total Suspended < 4.0 1 mq/L Solids (TSS) e. Ammonia (as N) 1 mq/L <0.20 VALUE VALUE VALUE VALUE f. Flow 196 1 GPM VALUE VALUE VALUE VALUE g. Temperature °C 11 1 (winter) VALUE VALUE VALUE VALUE h. Temperature °C 0 Not available (summer) MINIMUM MAXIMUM MINIMUM MAXIMUM i, pH 7.4 STANDARD UNITS 1 7.4 7.47.4 PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements, 2. MARK "X" 3. EFFLUENT 4. UNITS 5. INTAKE (optional) 1. POLLUTANT b. MAXIMUM 30 DAY VALUE c. LONG TERM AVRG. VALUE a. LONG TERM AVERAGE AND a. MAXIMUM DAILY VALUE (if available) (if available) VALUE CAS NO. d. NO. OF a. CONCENb. NO. OF BELIEVED BELIEVED (1). CONCENTRATION (1) CONCENTRATION (if available) PRESENT ABSENT ANALYSES TRATION b. MASS **ANALYSES** CONCENTRATION (2) MASS CONCENTRATION (2) MASS (2) MASS (2) MASS a. Bromide (24959-67-9) b. Chlorine, Total 53 <OL Residual c. Calar d. Fecal Coliform e. Fluoride (16984-48-8) f. Nitrate-Nitrite (as N)

ITEM V-B CONT	INVED FRO	OM FRONT	. <u></u>											
	2. MAI	₹K "X"				EFFLUENT .				4. UNI	TS	5. INTAKE (optional)		
1. POLLUTANT AND	a.	b.	a. MAXIMUM DA	NLY VALUE	b. MAXIMUM 30 (if availa		c. LONG TERM A (if availa	VRG. VALUE ble)				a. LONG TE AVERAGE V	RM ALUE	
CAS NO. (if available)	BELIEVED PRESENT	BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN- TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
g. Nitrogen, Total Organic (as N)		X										•		
h. Oil and Grease		$  \times  $											1	
i, Phosphorus (as P), Total (7723-14-0)		X				•								
j. Radioactivity	•													
(1) Alpha, Total		X		<del></del>			-							
(2) Beta, Total		X							-					
(3) Radium, Total		X				•								
(4) Radium 226, Total		X						-						
k. Sulfate (as SO <sub>4</sub> ) (14808-79-8)	X		3.9						1	mg/l				
I. Sulfide (as 5)	•	X												
m. Sulfite (as SO <sub>3</sub> ) (14265-45-3)		×							-					
n. Surfactants		X	-											
o. Aluminum, Total (7429-90-5)		×	<200						1	ug/L				
p. Barium, Total (7440-39-3)		X											-	
q. Boron, Total (7440-42-8)		X	,											
r. Cobalt, Total (7440-48-4)		X												
s. Iron, Total (7439-89-6)		X												
t. Magnesium, Total (7439-95-4)		×			-			,						
u. Molybdenum, Total (7439-98-7)		X												
v. Manganese, Total (7439-96-5)		X												
w. Tin, Total (7440-31-5)		X												
x. Titanium, Total (7440-32-6)		X												

EPAI.D. NUMBER (copy from Item 1 of Form 1) OUTFALL NUMBER
VA0006076 01

CONTINUED FROM PAGE 3 OF FORM 2-C

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a (secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions), mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl-4, 6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table (all 7 pages) for each outfall. See instructions for additional details and requirements.

	2	. MARK "X"	•			3. E	FFLUENT				4. UN	ITS	5. INTA	AKE (optiona	ıl)
1. POLLUTANT AND	a.	b.	C.	a, MAXIMUM DA		b. MAXIMUM 30 [ (if availal	ole)	c. LONG TERM VALUE (if ava		d. NO. OF	a. CONCEN-		a. LONG T AVERAGE V	/ALUE	b. NO. OF
CAS NUMBER (if available)	TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MA\$S	ANALYSES		b. MASS	(1) CONCENTRATION	(2) MASS	ANALYSE:
METALS, CYANIDE	E, AND TOT	AL PHENO	L\$												
1M. Antimony, Total (7440-36-0)			X						_						
2M. Arsenic, Total (7440-38-2)			X												<u></u>
3M. Beryllium, Total (7440-41-7)			X	<u> </u>											
4M. Cadmium, Total (7440-43-9)			X	<2.0						1	ug/L	,			
5M. Chromium, Total (7440-47-3)			X	<5.0						1	ug/L		-		
6M. Copper, Total (7440-50-8)			X	<25						1	ug/L				
7M. Lead, Total (7439-92-1)			X	<3.0						1	ug/L	}			
8M. Mercury, Total (7439-97-6)			X	<0.20						1	ug/L				
9M. Nickel, Total (7440-02-0)			X												
10M. Selenium, Total (7782-49-2)			X												
11M. Silver, Total (7440-22-4)			X												
12M. Thallium, Total (7440-28-0)			X									•			
13M. Zinc, Total (7440-66-6)			X	<50			1			1	ug/L				
14M. Cyanide, Total (57-12-5)			X								· · · · · · · · · · · · · · · · · · ·				
15M. Phenols, Total			X												
DIOXIN	•				•							<del></del>		•	
2,3,7,8-Tetra- chlorodibenzo-P- Dioxin (1764-01-6)			X	DESCRIBE RESI	JLTS			·····		·•.					

CONTINUED FRO															
		2. MARK_"X				3, E	FFLUENT				4. UN	ITS	5. INTA	AKE (optiona	il)
1. POLLUTANT AND	a.	b.	C.	a. MAXIMUM DA	LY VALUE	b. MAXIMUM 30 I (if availai		c. LONG TERM VALUE (if ava			- 001051		a. LONG T AVERAGE \		ь. NO. OF
CAS NUMBER (if available)	TESTING REQUIRED	BELIEVED PRESENT	BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	ANALYSES	a. CONCEN- TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	ANALYSES
GC/MS FRACTION	I – VOLATII	LE COMPO	UNDS												
1V. Accrolein (107-02-8)			X											_	
2V. Acrylonitrile (107-13-1)			X												
3V. Benzene (71-43-2)			X												
4V. Bis (Chloro- methyl) Ether (542-88-1)				DELISTED	2-4-81										
5V. Bromoform (75-25-2)			X												
6V. Carbon Tetrachloride (56-23-5)			X												
7V. Chlorobenzene (108-90-7)			X					·			v				
8V. Chlorodi- bromomethane (124-48-1)			X												
9V. Chloroethane (75-00-3)			X		•					,					
10V. 2-Chloro- ethylvinyl Ether (110-75-8)			X						•						
11V. Chloroform (67-66-3)			X												
12V. Dichloro- bromomethane (75-27-4)			X	5											
13V. Dichloro- difluoromethane (75-71-8)				DELISTED	1-8-81		"								
14V. 1,1-Dichloro- ethane (75-34-3)			X												
15V. 1,2-Dichloro- ethane (107-06-2)			X												
16V. 1,1-Dichloro- ethylene (75-35-4)			X				·								
17V. 1,2-Dichloro- propane (78-87-5)			X								·				
18V. 1,3-Dichloro- propylene (542-75-6)			X												
19V. Ethylbenzene (100-41-4)			X										Ì		
20V. Methyl Bromide (74-83-9)			X												
21V. Methyl Chloride (74-87-3)			X						-						

#### CONTINUED FROM PAGE V-4

CONTINUED I INC.	2. MARK "X"				3. EFFLUENT							4. UNITS 5. INTAKE (opti			
1. POLLUTANT AND	a.	b.	C.	a. MAXIMUM DA	ILY VALUE	b. MAXIMUM 30 l	DAY VALUE	c. LONG TERM VALUE (if ave	AVRG. ailable)				a. LONG T AVERAGE V	ERM	
CAS NUMBER (if available)	TESTING REQUIRED	BELIEVED	BELIEVED ABSENT	(1) CONCENTRATION		(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION			a, CONCEN- TRATION	þ. MASS	(1) CONCENTRATION		b. NO. OF ANALYSES
GC/MS FRACTION	– VOLATIL	E COMPO	JNDS (con	tinued)											
22V. Methylene Chloride (75-09-2)			X												
23V. 1,1,2,2- Tetrachloroethane (79-34-5)			X												
24V. Tetrachloro- ethylene (127-18-4)			$\times$												
25V. Toluene (108-88-3)			X												
26V. 1,2-Trans- Dichloroethylene (156-60-5)	•		X												
27V. 1,1,1-Trichloro- ethane (71-55-6)			X							,					
28V. 1,1,2-Trichloro- ethane (79-00-5)			X	•		·									
29V Trichloro- ethylene (79-01-6)			X	_											
30V. Trichloro- fluoromethane (75-69-4)				DELISTED	01-8-81					,	-				
31V. Vinyl Chloride (75-01-4)			X					,							
GC/MS FRACTION	- ACID CC	MPOUNDS	<u> </u>	•	· · · · · · · · · · · · · · · · · · ·	<del></del>	<u> </u>	•			•	•			
1A. 2-Chlorophenol (95-57-8)			X												
2A. 2,4-Dichloro- phenol (120-83-2)			X												
3A. 2,4-Dimethyl- phenol (105-67-9)			X												
4A. 4,6-Dinitro-O- Cresol (534-52-1)			X												
5A, 2,4-Dinitro- phenol (51-28-5)	,,,		X				<u></u>						-		
6A. 2-Nitrophenol (88-75-5)			X								-				
7A. 4-Nitrophenol (100-02-7)			X											-	
8A. P-Chloro-M- Cresol (59-50-7)		-	X												
9A. Pentachloro- phenol (87-86-5)			X												
10A. Phenol (108-95-2)			X												
11A. 2,4,6-Trichloro- phenol (88-05-2)			X												

CONTINUED FRO				<del>,                                    </del>							<del></del>				
4 DOLLUTANT	- :	2. MARK "X	<u>"</u>				FFLUENT	LONG TERM		•	4. UN	ITS	5, INTA	KE (optiona	<u>/)</u>
1. POLLUTANT AND	a.	<b>b</b> .	C.	a. MAXIMUM DA	II Y VALUE	b. MAXIMUM 30 (if availa		c. LONG TERM VALUE (if avo					AVERAGE \		
CAS NUMBER (if available)	TESTING REQUIRED	BELIEVED	BELIEVED	(1)		(1) CONCENTRATION		(1) CONCENTRATION		d. NO. OF ANALYSES	a. CONCEN- TRATION	b. MASS	(1) CONCENTRATION	l	b. NO. OF ANALYSES
GC/MS FRACTION	- BASE/N	EUTRAL CO	OMPOUND												
1B. Acenaphthene (83-32-9)	I		X											_	
2B. Acenaphtylene (208-96-8)			X						_			_			
3B. Anthracene (120-12-7)			X												
4B. Benzidine (92-87-5)			X								•				
5B. Benzo (a) Anthracene (56-55-3)			X					-			•				
6B. Benzo (a) Pyrene (50-32-8)			X												
7B. 3,4-Benzo- fluoranthene (205-99-2)			X												
8B. Benzo (ghi) Perylene (191-24-2)			X												
9B. Benzo (k) Fluoranthene (207-08-9)			X												
10B. Bis (2-Chloro- ethoxy) Methane (111-91-1)			X			-									
11B. Bis (2-Chloro- ethyl) Ether (111-44-4)			$\times$												
12B. Bis (2- Chloroisopropyl) Ether (102-80-1)			X												
13B. Bis (2-Ethyl- hexyl) Phthalate (117-81-7)			X												
14B. 4-Bromopheny Phenyl Ether (101-55-3)			X												
15B. Butyl Benzyl Phthalate (85-68-7)			X												
16B. 2-Chloro- naphthalene (91-58-7)			X		"									-	
17B. 4-Chloro- phenyl Phenyl Ether (7005-72-3)			X												
18B. Chrysene (218-01-9)			X												
19B, Dibenzo (a,h) Anthracene (53-70-3)			X												
20B. 1,2-Dichloro- benzene (95-50-1)			X												
21B. 1,3-Di-chloro- benzene (541-73-1)			X												

CONTINUED FRO	DNTINUED FROM PAGE V-6  2. MARK "X"			<del></del>		3. É	FFLUENT				4. UN	ITS	5. INTA	KE (optiona	d)
1. POLLUTANT AND	а	h	c	a. MAXIMUM DA	ILY VALUE	b. MAXIMUM 30   (if availa	DAY VALUE	c. LONG TERM VALUE (if ava	l AVRG. iilahle)				a. LONG T AVERAGE V	ERM	
CAS NUMBER (if available)	TESTING REQUIRED	BELIEVED PRESENT		(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. CONCEN- TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTIO	V - BASE/N	EUTRAL CO	OMPOUND	S (continued)											
22B. 1,4-Dichloro- benzene (106-46-7)			X											_	
23B. 3,3-Dichloro- benzidine (91-94-1)			X												
24B. Diethyl Phthalate (84-66-2)			X					•							
25B, Dimethyl Phthalate (131 -11-3)			X						·				:		
26B. Di-N-Butyl Phthalate (84-74-2)			X												
27B. 2,4-Dinitro- toluene (121-14-2)			X												
28B. 2,6-Dinitro- toluene (606-20-2)			X										·		
29B. Di-N-Octyl Phthalate (117-84-0)	ı		$\times$				٠								
30B. 1,2-Diphenyl- hydrazine (as Azo- benzene) (122-66-7)			X												
31B. Fluoranthene (206-44-0)			X												
32B. Fluorene (86-73-7)			X							i					
33B. Hexachioro- benzene (118-74-1)			X												
34B. Hexachtoro- butadiene (87-68-3)			X												
35B. Hexachloro- cyclopentadiene (77-47-4)			X					·							
36B Hexachloro- ethane (67-72-1)			X												
37B. Indeno (1,2,3-cd) Pyrene (193-39-5)			X									_			
38B. Isophorone (78-59-1)			X												,
39В. Naphthaleпе (91-20-3)			X												
40B. Nitrobenzene (98-95-3)			X												
41B. N-Nitro- sodimethylamine (62-75-9)			X												
42B. N-Nitrosodi- N-Propylamine (621-64-7)			X												

#### CONTINUED FROM THE FRONT

2. MARK "X"					3. E	FFLUENT				4. UNITS		5. INTAKE (optional)		ı/)	
1. POLLUTANT AND	a.	b.	C.	a. MAXIMUM DA	ILY VALUE	b. MAXIMUM 30 I (if availai		c. LONG TERM VALUE (if ava			20112511		a. LONG T AVERAGE V	ERM ALUE	
CAS NUMBER (if available)	TESTING REQUIRED	BELIEVED PRESENT	BELIÉVED ABSENT	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	ANALYSES	a. CONCEN- TRATION	b. MASS	(1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION	- BASE/NI	EUTRAL CO	MPOUND	S (continued)											
43B. N-Nitro- sodiphenylamine (86-30-6)			X	-											
44B. Phenanthrene (85-01-8)		•	X												
45B. Pyrene (129-00-0)			X												
46B. 1,2,4-Tri- chlorobenzene (120-82-1)			X												
GC/MS FRACTION	I – PESTIC	IDE\$													
1P. Aldrin (309-00-2)			X								-				
2P. α-BHC (319-84-6)			X												
3P, β-BHC (319-85-7)			X								-				
4P. γ-BHC (58-89-9)			X												
5P. δ-BHC (319-86-8)			X			-			•						
6P, Chlordane (57-74-9)			X												
7P. 4,4'-DDT (50-29-3)			X						٠						
8P. 4,4'-DDE (72-55-9)			X												
9P. 4,4'-DDD (72-54-8)			X												
10P. Dieldrin (60-57-1)			X												
11P. α-Enosulfan (115-29-7)			X				-	•							
12P. β-Endosulfan (115-29-7)			X											•	
13P. Endosulfan Sulfate (1031-07-8)			X												
14P, Endrin (72-20-8)			X												
15P. Endrin Aldehyde (7421-93-4)			X												
16P. Heptachlor (76-44-8)			X		-										

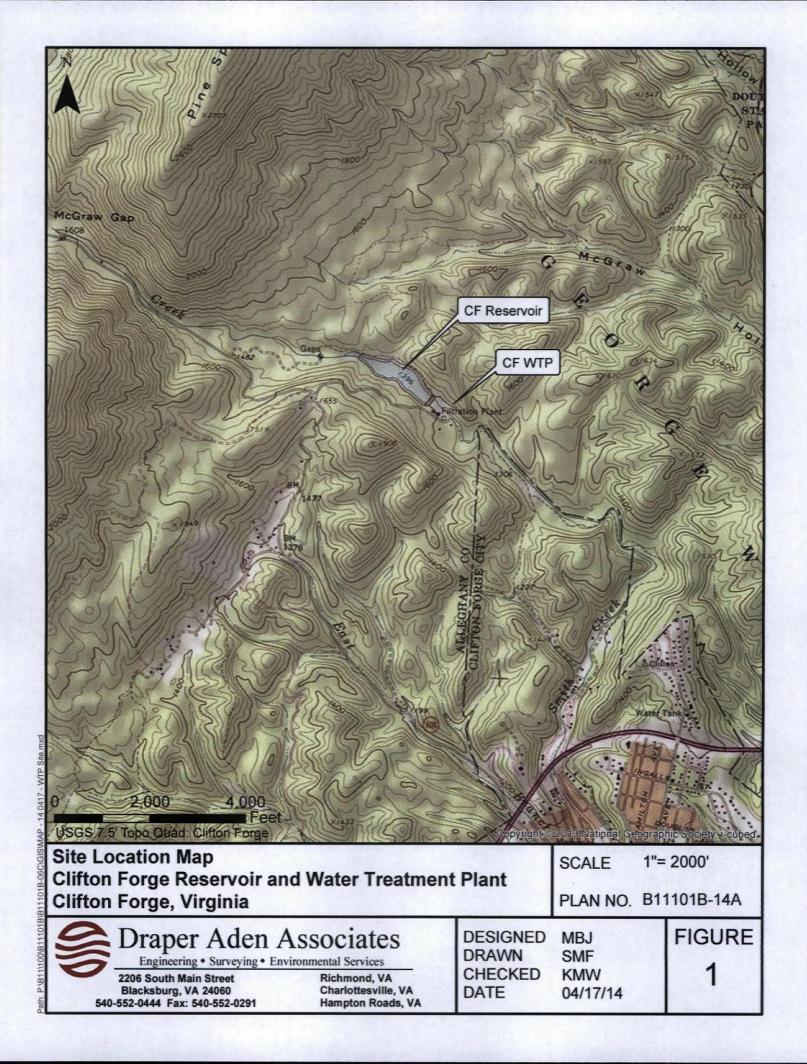
OUTFALL NUMBER EPA I.D. NUMBER (copy from Item 1 of Form 1) VA0006076 01

CONTINUED FROM PAGE V-8

COMMINDED LIKE	MI 1 70 6 4 -4														
	1	MARK "X	•		3. EFFLUENT						4. UN	ITS	5. INTAKE (optional)		
1. POLLUTANT AND	a.	b.	C.	a. MAXIMUM DA	ILY VALUE	b. MAXIMUM 30 I (if availar		c. LONG TERM VALUE (if ava		d. NO. OF	a. CONCEN-		a. LONG T AVERAGE V		b. NO. OF
CAS NUMBER (if available)	TESTING REQUIRED	TING BELIEVED UIRED PRESENT	BELIEVED ABSENT	(1) CONCENTRATION	(2) MASS .	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	1		b. MASS	(1) CONCENTRATION	(2) MASS	ANALYSES
GC/MS FRACTION	N - PESTICI	DES (contin	ued)												
17P. Heptachlor Epoxide (1024-57-3)			X								_				
18P. PCB-1242 (53469-21-9)			X												
19P, PCB-1254 (11097-69-1)			X				, ,			_					
20P. PCB-1221 (11104-28-2)			X												
21P. PCB-1232 (11141-16-5)			X												
22P. PCB-1248 (12672-29-6)			X												
23P. PCB-1260 (11096-82-5)			X		•	<u>-</u>									
24P, PCB-1016 (12674-11-2)			X												
25P. Toxaphene (8001-35-2)			X												

EPA Form 3510-2C (8-90)

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THE LEADER IN ENVIRONMENTAL TESTING

# **ANALYTICAL REPORT**

TestAmerica Laboratories, Inc. TestAmerica Canton 4101 Shuffel Street NW North Canton, OH 44720 Tel: (330)497-9396

TestAmerica Job ID: 240-35781-1

Client Project/Site: Clifton Forge Reservoir

For:

Draper Aden Associates, Inc. 2206 South Main street Blacksburg, Virginia 24060

Attn: Janet Frazier

Authorized for release by: 4/14/2014 5:13:36 PM

Mark Loeb, Project Manager II (330)966-9387

mark.loeb@testamericainc.com

.....LINKS .....

Review your project results through

Total Access

Have a Question?



Visit us at: www.testamericainc.com This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Certification Summary	18
Chain of Custody	10

















# Definitions/Glossary

Client: Draper Aden Associates, Inc. Project/Site: Clifton Forge Reservoir

TEF

TEQ

Toxicity Equivalent Factor (Dioxin)

Toxicity Equivalent Quotient (Dioxin)

TestAmerica Job ID: 240-35781-1

J

Qualifiers	
Metals	
Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
General Chen	iistry
Qualifier	Qualifier Description
Н	Sample was prepped or analyzed beyond the specified holding time
U	Indicates the analyte was analyzed for but not detected.
В	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery exceeds the control limits
Glossary	
Abbreviation	These commonly used abbreviations may or may not be present in this report.
<u> </u>	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points

TestAmerica Job ID: 240-35781-1

Client: Draper Aden Associates, Inc. Project/Site: Clifton Forge Reservoir

Job ID: 240-35781-1

Laboratory: TestAmerica Canton

Narrative

#### **CASE NARRATIVE**

Client: Draper Aden Associates, Inc.

Project: Clifton Forge Reservoir

Report Number: 240-35781-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

#### RECEIPT

The samples were received on 4/4/2014 12:25 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.4° C.

#### **TOTAL RECOVERABLE METALS (ICP)**

Samples OUTFALL 001 (240-35781-1) and TRIP BLANK (240-35781-2) were analyzed for total recoverable metals (ICP) in accordance with EPA Method 200.7. The samples were prepared on 04/07/2014 and analyzed on 04/08/2014.

No difficulties were encountered during the metals analysis. All quality control parameters were within the acceptance limits.

#### **MERCURY**

Samples OUTFALL 001 (240-35781-1) and TRIP BLANK (240-35781-2) were analyzed for mercury in accordance with EPA Method 245.1. The samples were prepared on 04/07/2014 and analyzed on 04/08/2014.

No difficulties were encountered during the mercury analysis. All quality control parameters were within the acceptance limits.

#### **TOTAL SUSPENDED SOLIDS**

Sample OUTFALL 001 (240-35781-1) was analyzed for total suspended solids in accordance with SM 2540D. The samples were analyzed on 04/08/2014.

TestAmerica Canton 4/14/2014

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Client: Draper Aden Associates, Inc. Project/Site: Clifton Forge Reservoir

#### Job ID: 240-35781-1 (Continued)

#### Laboratory: TestAmerica Canton (Continued)

No difficulties were encountered during the TSS analysis. All quality control parameters were within the acceptance limits.

#### **ANIONS**

Sample OUTFALL 001 (240-35781-1) was analyzed for anions in accordance with EPA Method 300.0. The samples were analyzed on 04/08/2014.

No difficulties were encountered during the anions analysis. All quality control parameters were within the acceptance limits.

#### **BIOCHEMICAL OXYGEN DEMAND**

Sample OUTFALL 001 (240-35781-1) was analyzed for Biochemical oxygen demand in accordance with SM 5210B. The samples were analyzed on 04/04/2014.

The following sample was received with less than 2 days remaining on the holding time or less than one shift (8 hours) remaining on a test with a holding time of 48 hours or less. As such, the laboratory had insufficient time remaining to perform the analysis within holding time: OUTFALL 001 (240-35781-1).

The USB dilution water D.O. depletion was greater than 0.2 mg/L at 0.37 mg/L, but less than the reporting limit of 2.0 mg/L. The associated sample results in batch 125341 are reported. OUTFALL 001 (240-35781-1)

No other difficulties were encountered during the BOD analysis. All other quality control parameters were within the acceptance limits.

#### **CHEMICAL OXYGEN DEMAND**

Sample OUTFALL 001 (240-35781-1) was analyzed for chemical oxygen demand in accordance with SM 5220D. The samples were analyzed on 04/09/2014.

Chemical Oxygen Demand failed the recovery criteria high for the MS/MSD of sample OUTFALL 001MS/MSD (240-35781-1) in batch 240-125803. Refer to the QC report for details.

No other difficulties were encountered during the COD analysis. All other quality control parameters were within the acceptance limits.

#### **TOTAL ORGANIC CARBON**

Sample OUTFALL 001 (240-35781-1) was analyzed for total organic carbon in accordance with SM 5310. The samples were analyzed on 04/07/2014.

No difficulties were encountered during the TOC analysis. All quality control parameters were within the acceptance limits.

#### <u>AMMONIA</u>

Sample OUTFALL 001 (240-35781-1) was analyzed for ammonia in accordance with SM 4500 NH3 D. The samples were analyzed on 04/14/2014.

Ammonia was detected in method blank MB 240-126417/7 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

No other difficulties were encountered during the ammonia analysis. All other quality control parameters were within the acceptance limits.

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TestAmerica Job ID: 240-35781-1

Client: Draper Aden Associates, Inc. Project/Site: Clifton Forge Reservoir

Method	Method Description	Protocol	Laboratory
200.7 Rev 4.4	Metals (ICP)	EPA	TAL CAN
245.1	Mercury (CVAA)	EPA	TAL CAN
300.0	Anions, Ion Chromatography	MCAWW	TAL CAN
5210B-2001	BOD, 5-Day	SM	TAL CAN
5220D-1997	Chemical Oxygen Demand	. SM	TAL CAN
5310C-2000	Total Organic Carbon/Persulfate - Ultrav	SM	TAL CAN
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL CAN
SM 4500 NH3 D	Ammonia	SM	TAL CAN





#### Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

#### Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

# **Sample Summary**

TestAmerica Job ID: 240-35781-1

Client: Draper Aden Associates, Inc. Project/Site: Clifton Forge Reservoir

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-35781-1	OUTFALL 001	Water	04/02/14 14:45	04/04/14 12:25
240-35781-2	TRIP BLANK	Water	03/31/14 00:00	04/04/14 12:25















### **Detection Summary**

Client: Draper Aden Associates, Inc. Project/Site: Clifton Forge Reservoir TestAmerica Job ID: 240-35781-1

Lab Sample ID: 240-35781-1

Analyte	Result	Qualifier	RL	MOL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	3.9		1.0	0.12	mg/L	1	•	300.0	Tota!/NA
Ammonia	0,040	JB	0.20	0.025	mg/L	1		SM 4500 NH3 D	Total/NA

Client Sample ID: TRIP BLANK Lab Sample ID: 240-35781-2

No Detections.









Client: Draper Aden Associates, Inc. Project/Site: Clifton Forge Reservoir

TestAmerica Job ID: 240-35781-1

Client Sample ID: OUTFALL 001

Date Collected: 04/02/14 14:45 Date Received: 04/04/14 12:25 Lab Sample ID: 240-35781-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	200	U	200	97	ug/L		04/07/14 08:34	04/08/14 10:21	1
Cadmium	2.0	U	2.0	0.66	ug/L		04/07/14 08:34	04/08/14 10:21	1
Chromium	5.0	U	5.0	2.2	ug/L		04/07/14 08:34	04/08/14 10:21	1
Соррег	25	U	25	4.5	ug/L		04/07/14 08:34	04/08/14 10:21	1
Lead	3.0	U	3.0	1.9	ug/L		04/07/14 08:34	04/08/14 10:21	1
Zinc	50	U	50	5.0	ug/L		04/07/14 08:34	04/08/14 10:21	1
- Method: 245.1 - Mercury (CVAA)									
Analyte	Result	Qualifier	RL	MDL	Unit	Ð	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.12	ug/L		04/07/14 13:05	04/08/14 14:03	1
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	3.9		1.0	0.12	mg/L			04/08/14 19:10	1
Biochemical Oxygen Demand	2.0	UH ·	2.0	2.0	mg/L			04/04/14 14:46	1
Chemical Oxygen Demand	10	U	10	7.8	mg/L			04/09/14 11:31	1
Total Organic Carbon	1.0	U	1.0	0.24	mg/L			04/07/14 12:29	1
Total Suspended Solids	4.0	U	4.0	1.8	mg/L			04/08/14 09:08	1
Ammonia	0.040	1.6	0.20	0.025				04/14/14 12:33	1

Client: Draper Aden Associates, Inc. Project/Site: Clifton Forge Reservoir TestAmerica Job ID: 240-35781-1

Client Sample ID: TRIP BLANK

Date Collected: 03/31/14 00:00

Date Received: 04/04/14 12:25

Lab Sample ID: 240-35781-2

Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP)	- Total Red	overable							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	200	U	200	97	ug/L		04/07/14 08:34	04/08/14 10:45	1
Cadmium	2.0	U	2.0	0.66	ug/L		04/07/14 08:34	04/08/14 10:45	1
Chromium	5.0	U	5.0	2.2	ug/L		04/07/14 08:34	04/08/14 10:45	1
Copper	25	υ	25	4.5	ug/L		04/07/14 08:34	04/08/14 10:45	1
Lead	3.0	υ	3.0	1.9	ug/L		04/07/14 08:34	04/08/14 10:45	1
Zinc	50	U .	50	5.0	ug/L		04/07/14 08:34	04/08/14 10:45	, 1
Method: 245.1 - Mercury (CVAA)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.12	ug/L		04/07/14 13:05	04/08/14 14:23	1



TestAmerica Job ID: 240-35781-1

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Client: Draper Aden Associates, Inc. Project/Site: Clifton Forge Reservoir

Lab Sample ID: MB 240-125461/1-A

Matrix: Water

#### Method: 200.7 Rev 4.4 - Metals (ICP)

1	Analysis Batch: 125754								Prep Batch:	125461
-	-	MB	MB						- ,	
i	Analyte	Result	Qualifier	RL	MOL	Unit	D	Prepared	Analyzed	Dil Fac
:	Aluminum	200	Ū	200	97	ug/L		04/07/14 08:34	04/08/14 07:51	1
-	Cadmium	2.0	U ·	2.0	0.66	ug/L		04/07/14 08:34	04/08/14 07:51	1
M	Chromium	5.0	U	5.0	2.2	ug/L		04/07/14 08:34	04/08/14 07:51	1
	Copper	25	U .	25	4.5	ug/L		04/07/14 08:34	04/08/14 07:51	1
	Lead	3.0	U	3.0	1.9	ug/L		04/07/14 08:34	04/08/14 07:51	1
ļ	Zinc	50	U	50	5.0	ua/L		04/07/14 08:34	04/08/14 07:51	1

Lab Sample ID: LCS 240-125461/2-A Client Sample ID: Lab Control Sample Matrix: Water Prep Type: Total Recoverable

Analysis Batch: 125754 Prep Batch: 125461 Spike LCS LCS Result Qualifier Analyte Added Unit %Rec Limits 2000 1970 **85 - 115** ua/L 98 50.0 50.1 ug/L 100 85 . 115

Aluminum Cadmium Chromium 200 193 97 85 - 115 ug/L Соррег 250 244 uo/L 97 85 - 115 Lead 500 468 ug/L 85 - 115 94 Zinc 500 483 85 - 115 ug/L

#### Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 240-125464/1-A

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 125741

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 125464

 Analyte
 Result
 Qualifier
 RL
 MDL
 Unit
 D
 Prepared
 Analyzed
 Dil Fac

 Mercury
 0.20
 U
 0.20
 0.12
 ug/L
 04/07/14 13:05
 04/08/14 13:42
 1

Lab Sample ID: LCS 240-125464/2-A

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 125741

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 125464

#### Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 240-125709/3

Matrix: Water

Analysis Batch: 125709

MB MB

Client Sample ID: Method Blank
Prep Type: Total/NA

 Analyte
 Result
 Qualifier
 RL
 MDL
 Unit
 D
 Prepared
 Analyzed
 Dil Fac

 Sulfate
 1.0
 U
 1.0
 0.12
 mg/L
 04/08/14 13:30
 1

Client: Draper Aden Associates, Inc. Project/Site: Clifton Forge Reservoir

TestAmerica Job ID: 240-35781-1

Method: 300.0 - Anions, Ion Ch														
- Lab Sample ID: LCS 240-125709/4										CI	lient	Sampl	e ID: Lab Contro	l Sample
Matrix: Water													Prep Type:	Total/NA
Analysis Batch: 125709														
•				Spike		LCS	LCS						%Rec.	
Analyte				Added		Result	Qual	lifier	Unit		D	%Rec	Limits	
Sulfate				50.0		48.1	_		mg/L		_	96	90.110	
													<u> </u>	
Method: 5210B-2001 - BOD, 5-	Day													
Lab Sample ID: SCB 240-125341/2												Client	Sample ID: Meth	od Blani
Matrix: Water													Prep Type:	Total/NA
Analysis Batch: 125341														
-	S	CB	SCB											
Analyte	Res	ult	Qualifier		RL		MDL	Unit		D	P	repared	Analyzed	Dil Fac
Biochemical Oxygen Demand		2.0	Ü		2.0		2.0	mg/L					, 04/04/14 13:24	
Lab Sample ID: USB 240-125341/1												Client	Sample ID: Meth	od Blank
Matrix: Water													Prep Type:	
Analysis Batch: 125341										•			riop Typo.	10000110
Allalysis Datell. 125541		e B	USB											
Amahata	_		Qualifier		RL		MDL	11-14		D			Analyzad	Dil Co.
Analyte											P	repared	Analyzed	Dil Fac
Biochemical Oxygen Demand	-	2.0	U		2.0		2.0	mg/L					04/04/14 13:22	
Lab Sample ID: LCS 240-125341/3										CI	ient	Sampl	e ID: Lab Contro	l Sample
Matrix: Water													Prep Type:	
Analysis Ratch: 125341														
Analysis Batch: 125341				Snike		108	LCS						%Rec	
-				Spike			LCS		Hnit		n	% Dar	%Rec.	
Analyte				Added		Result			Unit		<b>D</b>	%Rec	Limits	
-		_		•					Unit mg/L		<u>D</u>	<b>%Rec</b> 87		
Analyte Biochemical Oxygen Demand	al Oxyge	en l	Demand	Added		Result					<u>D</u>		Limits	
Analyte Biochemical Oxygen Demand	al Oxyge	en l	Demand	Added		Result						87	Limits	od Blank
Analyte Biochemical Oxygen Demand  Wethod: 5220D-1997 - Chemica Lab Sample ID: MB 240-125803/9	al Oxyge	en l	Demand	Added		Result						87	Limits 85 - 115 Sample ID: Meth	
Analyte Biochemical Oxygen Demand  Wethod: 5220D-1997 - Chemica  Lab Sample ID: MB 240-125803/9  Matrix: Water	al Oxyge	en l	Demand	Added		Result						87	Limits 85 - 115	
Analyte Biochemical Oxygen Demand  Wethod: 5220D-1997 - Chemica Lab Sample ID: MB 240-125803/9				Added		Result						87	Limits 85 - 115 Sample ID: Meth	
Analyte Biochemical Oxygen Demand  Method: 5220D-1997 - Chemica Lab Sample ID: MB 240-125803/9  Matrix: Water Analysis Batch: 125803	1	MB	MB	Added	RI	Result	Qua	lifier				87 Client	Limits 85 - 115 Sample ID: Meth Prep Type:	Total/NA
Analyte Biochemical Oxygen Demand  Method: 5220D-1997 - Chemica Lab Sample ID: MB 240-125803/9 Matrix: Water Analysis Batch: 125803	1	MB ult	MB Qualifier	Added	RL 10	Result	Qua	Unit				87	Limits  85 - 115  Sample ID: Meth Prep Type:	
Analyte Biochemical Oxygen Demand  Method: 5220D-1997 - Chemica Lab Sample ID: MB 240-125803/9  Matrix: Water Analysis Batch: 125803	1	MB	MB Qualifier	Added	RL 10	Result	Qua	lifier				87 Client	Limits 85 - 115 Sample ID: Meth Prep Type:	Total/NA
Analyte Biochemical Oxygen Demand  Method: 5220D-1997 - Chemica Lab Sample ID: MB 240-125803/9 Matrix: Water Analysis Batch: 125803	Res	MB ult	MB Qualifier	Added		Result	Qua	Unit			Pı	87 Client	Limits  85 - 115  Sample ID: Meth Prep Type:	Total/NA
Analyte Biochemical Oxygen Demand  Method: 5220D-1997 - Chemical Lab Sample ID: MB 240-125803/9 Matrix: Water Analysis Batch: 125803  Analyte Chemical Oxygen Demand	Res	MB ult	MB Qualifier	Added		Result	Qua	Unit			Pı	87 Client	Limits 85 - 115  Sample ID: Meth Prep Type:  Analyzed 04/09/14 11:28	Dil Fac
Analyte Biochemical Oxygen Demand  Method: 5220D-1997 - Chemical Lab Sample ID: MB 240-125803/9 Matrix: Water Analysis Batch: 125803  Analyte Chemical Oxygen Demand  Lab Sample ID: LCS 240-125803/10	Res	MB ult	MB Qualifier	Added		Result	Qua	Unit			Pı	87 Client	Limits  85 - 115  Sample ID: Meth Prep Type:  Analyzed  04/09/14 11:28  e ID: Lab Contro	Dil Fac
Analyte Biochemical Oxygen Demand  Method: 5220D-1997 - Chemical Lab Sample ID: MB 240-125803/9 Matrix: Water Analysis Batch: 125803  Analyte Chemical Oxygen Demand  Lab Sample ID: LCS 240-125803/10 Matrix: Water	Res	MB ult	MB Qualifier	Added		Result 172	Qua	Unit mg/L			Pı	87 Client	Limits  85 - 115  Sample ID: Meth Prep Type:  Analyzed  04/09/14 11:28  e ID: Lab Contro	Dil Fac
Analyte Biochemical Oxygen Demand  Method: 5220D-1997 - Chemical Lab Sample ID: MB 240-125803/9 Matrix: Water Analysis Batch: 125803  Analyte Chemical Oxygen Demand  Lab Sample ID: LCS 240-125803/10 Matrix: Water	Res	MB ult	MB Qualifier	Added 198		Result 172	MDL 7.8	Unit mg/L			Pı	87 Client	Limits 85 - 115  Sample ID: Meth Prep Type:  Analyzed 04/09/14 11:28 e ID: Lab Contro Prep Type:	Dil Fac
Analyte Biochemical Oxygen Demand  Method: 5220D-1997 - Chemical Lab Sample ID: MB 240-125803/9 Matrix: Water Analysis Batch: 125803  Analyte Chemical Oxygen Demand  Lab Sample ID: LCS 240-125803/10 Matrix: Water Analysis Batch: 125803	Res	MB ult	MB Qualifier	Added 198 Spike		Result 172	MDL 7.8	Unit mg/L	mg/L		Pi	Client repared	Limits 85 - 115  Sample ID: Meth Prep Type:  Analyzed 04/09/14 11:28 e ID: Lab Contro Prep Type: %Rec.	Dil Fac
Analyte Biochemical Oxygen Demand  Method: 5220D-1997 - Chemical Lab Sample ID: MB 240-125803/9 Matrix: Water Analysis Batch: 125803  Analyte Chemical Oxygen Demand  Lab Sample ID: LCS 240-125803/10 Matrix: Water Analysis Batch: 125803  Analyte Chemical Oxygen Demand	Res	MB ult	MB Qualifier	Added 198 Spike Added		LCS Result	MDL 7.8	Unit mg/L	mg/L Unit		Pi lient	Client repared Sampl	Limits 85 - 115  Sample ID: Meth Prep Type:  Analyzed 04/09/14 11:28  e ID: Lab Contro Prep Type:  %Rec. Limits 90 - 110	Dil Fac Dil Fac I Sample Total/NA
Analyte Biochemical Oxygen Demand  Method: 5220D-1997 - Chemical Lab Sample ID: MB 240-125803/9 Matrix: Water Analysis Batch: 125803  Analyte Chemical Oxygen Demand Lab Sample ID: LCS 240-125803/10 Matrix: Water Analysis Batch: 125803  Analyte Chemical Oxygen Demand  Lab Sample ID: 240-35781-1 MS	Res	MB ult	MB Qualifier	Added 198 Spike Added		LCS Result	MDL 7.8	Unit mg/L	mg/L Unit		Pi lient	Client repared Sampl	Limits 85 - 115  Sample ID: Meth Prep Type:  Analyzed 04/09/14 11:28  e ID: Lab Contro Prep Type:  %Rec. Limits 90 - 110  Sample ID: OUTF	Dil Fac I Sample Total/NA
Analyte Biochemical Oxygen Demand  Method: 5220D-1997 - Chemical Lab Sample ID: MB 240-125803/9 Matrix: Water Analysis Batch: 125803  Analyte Chemical Oxygen Demand  Lab Sample ID: LCS 240-125803/10 Matrix: Water Analysis Batch: 125803  Analyte Chemical Oxygen Demand  Lab Sample ID: 240-35781-1 MS Matrix: Water	Res	MB ult	MB Qualifier	Added 198 Spike Added		LCS Result	MDL 7.8	Unit mg/L	mg/L Unit		Pi lient	Client repared Sampl	Limits 85 - 115  Sample ID: Meth Prep Type:  Analyzed 04/09/14 11:28  e ID: Lab Contro Prep Type:  %Rec. Limits 90 - 110	Dil Fac
Analyte Biochemical Oxygen Demand  Method: 5220D-1997 - Chemical Lab Sample ID: MB 240-125803/9 Matrix: Water Analysis Batch: 125803  Analyte Chemical Oxygen Demand Lab Sample ID: LCS 240-125803/10 Matrix: Water Analysis Batch: 125803  Analyte Chemical Oxygen Demand  Lab Sample ID: 240-35781-1 MS	Res	MB sult 10	MB Qualifier U	Spike Added 68.0		LCS Result	MIDL 7.8	Unit mg/L	mg/L Unit		Pi lient	Client repared Sampl	Limits  85 - 115  Sample ID: Meth Prep Type:  Analyzed  04/09/14 11:28  e ID: Lab Contro Prep Type:  %Rec. Limits  90 - 110  Sample ID: OUTF Prep Type:	Dil Fac
Analyte Biochemical Oxygen Demand  Method: 5220D-1997 - Chemical Lab Sample ID: MB 240-125803/9 Matrix: Water Analysis Batch: 125803  Analyte Chemical Oxygen Demand  Lab Sample ID: LCS 240-125803/10 Matrix: Water Analysis Batch: 125803  Analyte Chemical Oxygen Demand  Lab Sample ID: 240-35781-1 MS Matrix: Water	Res	MB ult 10	MB Qualifier U	Added 198 Spike Added		LCS Result	MDL 7.8	Unit mg/L	mg/L Unit		Pi lient	Client repared Sampl	Limits 85 - 115  Sample ID: Meth Prep Type:  Analyzed 04/09/14 11:28  e ID: Lab Contro Prep Type:  %Rec. Limits 90 - 110  Sample ID: OUTF	Dil Fac
Analyte Biochemical Oxygen Demand  Wethod: 5220D-1997 - Chemical Lab Sample ID: MB 240-125803/9 Matrix: Water Analysis Batch: 125803  Analyte Chemical Oxygen Demand  Lab Sample ID: LCS 240-125803/10 Matrix: Water Analysis Batch: 125803  Analyte Chemical Oxygen Demand  Lab Sample ID: 240-35781-1 MS Matrix: Water	Res	MB ult 10	MB Qualifier U	Spike Added 68.0		LCS Result	MDL 7.8  LCS Qual	Unit mg/L	mg/L Unit		Pi lient	Client repared Sampl	Limits  85 - 115  Sample ID: Meth Prep Type:  Analyzed  04/09/14 11:28  e ID: Lab Contro Prep Type:  %Rec. Limits  90 - 110  Sample ID: OUTF Prep Type:	Dil Fac

44

Client: Draper Aden Associates, Inc. Project/Site: Clifton Forge Reservoir TestAmerica Job ID: 240-35781-1

Method: 5220D-1997 - Chemical Oxygen Demand (Continued)
---

Lab Sample ID: 240-35781-1 MSD Client Sample ID: OUTFALL 001 Matrix: Water

Analysis Batch: 125803

Prep Type: Total/NA RPD Spike MSD MSD %Rec. Sample Sample

Result Qualifier Added Result Qualifier Unit %Rec Limits **RPD** Limit 10 U Chemical Oxygen Demand 50.0 57.6 F1 mg/L 90 - 110 20

#### Method: 5310C-2000 - Total Organic Carbon/Persulfate - Ultrav

Client Sample ID: Method Blank Lab Sample ID: MB 240-125529/3 Prep Type: Total/NA

Matrix: Water Analysis Batch: 125529

MB MB Dil Fac Result Qualifier RL MDL Unit Prepared Analyzed Analyte 0.24 mg/L 1.0 U 1.0 04/07/14 09:20 Total Organic Carbon

Client Sample ID: Lab Control Sample Lab Sample ID: LCS 240-125529/4 **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 125529

Spike LCS LCS %Rec. Added Result Qualifier %Rec Limits Anaivte Unit

Total Organic Carbon 40.8 38 1 mg/L 93 88 - 115

#### Method: SM 2540D - Solids, Total Suspended (TSS)

Client Sample ID: Method Blank Lab Sample ID: MB 240-125642/1 Matrix: Water Prep Type: Total/NA

Analysis Batch: 125642

Result Qualifier RL MDL Unit Dil Fac Analyte Prepared Analyzed 04/08/14 09:08 4.0 **Total Suspended Solids** 4.0 U 1.8 mg/L

Lab Sample ID: LCS 240-125642/2 Client Sample ID: Lab Control Sample Prep Type: Total/NA

Matrix: Water

Analysis Batch: 125642

LCS LCS Spike %Rec. Added Result Qualifier Unit %Rec Limits Total Suspended Solids 46.3 48.0 mg/L 104 73 - 113

#### Method: SM 4500 NH3 D - Ammonia

Client Sample ID: Method Blank Lab Sample ID: MB 240-126417/7 Matrix: Water Prep Type: Total/NA

Analysis Batch: 126417

Ammonia

MB MB Result Qualifier RL MDL Unit Dil Fac Analyzed Analyte Prepared 0.20

0.025 mg/L

0.0357 J

TestAmerica Canton

4/14/2014

04/14/14 12:32







Client: Draper Aden Associates, Inc. Project/Site: Clifton Forge Reservoir TestAmerica Job ID: 240-35781-1

#### Method: SM 4500 NH3 D - Ammonia (Continued)

Lab Sample ID: LCS 240-126417/8 Matrix: Water							Client	Sample	ID: Lab Co	ontrol Sa ype: Tot	•
Analysis Batch: 126417									, тор т	Jpc. 10	
·			Spike	LCS	LCS				%Rec.		
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits		
Ammonia			15.3	16.6		mg/L		108	85 _ 114		
- Lab Sample ID: 240-35781-1 MS								Client S	ample ID:	OUTFAL	L 001
Matrix: Water										ype: To	
Analysis Batch: 126417									•		
	Sample	Sample	Spike	MS	MS				%Rec.		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Ammonia	0.040	JB	2.50	2.51		mg/L		99	75 - 125		
- Lab Sample ID: 240-35781-1 MSD								Client S	ample ID:	OUTFAL	L 001
Matrix: Water									Prep T	ype: To	tal/NA
Analysis Batch: 126417										-	
-	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	Đ	%Rec	Limits	RPD	Limit
Ammonia	0.040	JB	2.50	2.54		mg/L		100	75 - 125	1	20



1

TestAmerica Job ID: 240-35781-1

Client:	Drape	er Aden	Assoc	ciates,	Inc.
Project	t/Site:	Clifton	Forae	Reser	voir

Metals				<u></u>	
Prep Batch: 125461			•		
- Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batcl
240-35781-1	OUTFALL 001	Total Recoverable	Water	200.7	· · · · · · · · · · · · · · · · · · ·
240-35781-2	TRIP BLANK	Total Recoverable	Water	200.7	
LCS 240-125461/2-A	Lab Control Sample	. Total Recoverable	Water	200.7	
MB 240-125461/1-A	Method Blank	Total Recoverable	Water	200.7	
Prep Batch: 125464					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batc
240-35781-1	OUTFALL 001	Total/NA	Water	245.1	
240-35781-2	TRIP BLANK	Total/NA	Water	245.1	
LCS 240-125464/2-A	Lab Control Sample	Total/NA	Water	245.1	
MB 240-125464/1-A	Method Blank	Total/NA	Water	245.1	
- Analysis Batch: 12574	1				
- Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batc
240-35781-1	OUTFALL 001	Total/NA	Water	245.1	12546
240-35781-2	TRIP BLANK	Total/NA	Water	245.1	12546
LCS 240-125464/2-A	Lab Control Sample	Total/NA	Water	<b>245</b> .1	12546
MB 240-125464/1-A	Method Blank	Total/NA	Water	245.1	12546
Analysis Batch: 12575	4				
Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Bate
240-35781-1	OUTFALL 001	Total Recoverable	Water	200.7 Rev 4.4	12546
240-35781-2	TRIP BLANK	Total Recoverable	Water	200.7 Rev 4.4	12546
LCS 240-125461/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	12546
MB 240-125461/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	12546
General Chemistry	, , , , , , , , , , , , , , , , , , , ,		,		
Analysis Batch: 12534	1				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batc
240-35781-1	OUTFALL 001	Total/NA	Water	5210B-2001	
LCS 240-125341/3	Lab Control Sample	Total/NA	Water	5210B-2001	
SCB 240-125341/2	Method Blank	Total/NA	Water	5210B-2001	
USB 240-125341/1	Method Blank	Total/NA	Water	5210B-2001	
~ Analysis Batch: 12552	9				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Bato
240-35781-1	OUTFALL 001	Total/NA	Water	5310C-2000	
LC\$ 240-125529/4	Lab Control Sample	Total/NA	Water	5310C-2000	
MB 240-125529/3	Method Blank	Total/NA	Water	5310C-2000	
Analysis Batch: 12564	2				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Bato
240-35781-1	OUTFALL 001	Total/NA	Water	SM 2540D	
LCS 240-125642/2	Lab Control Sample	Total/NA	Water	SM 2540D	
MB 240-125642/1	Method Blank	Total/NA	Water	SM 2540D	
Analysis Batch: 12570	9				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Bato
240-35781-1	OUTFALL 001	Total/NA	Water	300.0	

# **QC Association Summary**

Client: Draper Aden Associates, Inc. Project/Site: Clifton Forge Reservoir

TestAmerica Job ID: 240-35781-1

inalysis Batch: 12570	9 (Continued)				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 240-125709/4	Lab Control Sample	Total/NA	Water	300.0	
MB 240-125709/3	Method Blank	Total/NA	Water	300.0	
nalysis Batch: 12580	3				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-35781-1	OUTFALL 001	Total/NA	Water	5220D-1997	
240-35781-1 MS	OUTFALL 001	Total/NA	Water	5220D-1997	
240-35781-1 MSD	OUTFALL 001 ,	Total/NA	Water	5220D-1997	
LCS 240-125803/10	Lab Control Sample	Total/NA	Water	5220D-1997	
MB 240-125803/9	Method Blank	Total/NA	Water	5220D-1997	
nalysis Batch: 12641	7	•			
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batc
240-35781-1	OUTFALL 001	Total/NA	Water	SM 4500 NH3 D	1,7,
240-35781-1 MS	OUTFALL 001	Total/NA	Water	SM 4500 NH3 D	
240-35781-1 MSD	OUTFALL 001	Total/NA	Water	SM 4500 NH3 D	
LCS 240-126417/8	Lab Control Sample	Total/NA	Water	SM 4500 NH3 D	
MB 240-126417/7	Method Blank	Total/NA	Water	SM 4500 NH3 D	

TestAmerica Job ID: 240-35781-1

Client: Draper Aden Associates, Inc. Project/Site: Clifton Forge Reservoir

Client Sample ID: OUTFALL 001

Date Collected: 04/02/14 14:45 Date Received: 04/04/14 12:25 Lab Sample ID: 240-35781-1

Matrix: Water

	Batch	Batch		Dilution	Batch	Prepared			
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab	
Total Recoverable	Prep	200.7			125461	04/07/14 08:34	LPM	TAL CAN	
Total Recoverable	Analysis	200.7 Rev 4.4		1	125754	04/08/14 10:21	KLC	TAL CAN	
Total/NA	Prep	245.1			125464	04/07/14 13:05	LPM	TẠL CAN	
Total/NA	Analysis	245.1		1	125741	04/08/14 14:03	AMM2	TAL CAN	
Total/NA	Analysis	300.0		1	125709	04/08/14 19:10	LKG	TAL CAN	
Total/NA	Analysis	5210B-2001	•	1	125341	04/04/14 14:46	NJE	TAL CAN	
Total/NA	Analysis	5220D-1997		1	125803	04/09/14 11:31	TPH	TAL CAN	
Total/NA	Analysis	5310C-2000		1	125529	04/07/14 12:29	TPH	TAL CAN	
Total/NA	Analysis	SM 2540D		1	125642	04/08/14 09:08	LCN	TAL CAN	
Total/NA	Analysis	SM 4500 NH3 D		1	126417	04/14/14 12:33	JAK	TAL CAN	

Client Sample ID: TRIP BLANK

Date Collected: 03/31/14 00:00

Date Received: 04/04/14 12:25

Lab Sample ID: 240-35781-2

Matrix: Water

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	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total Recoverable	Prep	200.7			125461	04/07/14 08:34	LPM	TAL CAN
Total Recoverable	Analysis	200.7 Rev 4.4		1	125754	04/08/14 10:45	KLC	TAL CAN
Total/NA	Prep	245.1			125464	04/07/14 13:05	LPM	TAL CAN
Total/NA	Analysis	245.1		1	125741	04/08/14 14:23	AMM2	TAL CAN

#### **Laboratory References:**

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

# **Certification Summary**

Client: Draper Aden Associates, Inc. Project/Site: Clifton Forge Reservoir

TestAmerica Job ID: 240-35781-1

Laboratory: TestAmerica Canton	L	abo	rator	٧:	Test#	merica	Canton
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Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program		EPA Region	Certification ID	Expiration Date
Virginia	NELAP		3	460175	09-14-14
	are included in this report, bu		ered by the governing	authority:	
The following analytes Analysis Method	are included in this report, bu Prep Method	t certification is not off Matrix	ered by the governing a Analy	•	

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TestAmerica Laboratories, Inc.

# CHAIN OF CUSTODY AND RECEIVING DOCUMENTS

240-35781 Chain of Custody

CHAIN OF CUSTODY	RECORD	_

				-					ou.	NIN OF (	·	V DEA	COBD		: <u> </u>	4,4				
Laboratory:	Test Á	merica.	4101 8	shuffel l	Drive N	W.Ner	th Cantor	ı, QH; 44	(P) 46' 44'	NN OF C	A 77 668	分据信7%	E-225	No.					100 T	
Cilent: Town of Clifton Forge Attn: Mr. Bobby Irvine Addres 2500 Sulfur Spring Road Clifton Forge, VA 24422				Consult Attn: Addres	tant:	Draper Aden Associates Janet C. Frazier 2206 South Main Street Blacksburg, Virginia 24060				Sample Site:			Clifton Forge Reservoir Clifton Forge , Virginia Outfali 001		Sample (	Project Specific (PS) or Batch (B) QC: Sample Collection for Project Complete? YES				
Phone: Fax: Fax:			Phone: Fax:			(540) 552-0444 (540) 552-0291				Event: DAA JN: B1110 Lab JN:							<u> </u>			
Box 1: Matrix SW Surface Water T Trip Blank GW Groundwater E Equipment Blank				A H B H	INO <sub>5</sub>	tive	E NaOH F ZnAc				Box 3: Filtered/Unfiltered F Filtered U Unfiltered			Box 4: Sample Type			Copy to Consultant: YES			
L Leachate P Product S Soil O Other					i₂SO₄ is₂S₂O₃		G Other (Specify) H None			Box 5: Sample Container Type P Plastic V VOA AG Amber Glass CG Clear							served and shipped on ice: YES			
Bo Re		G U H	G U •	G U <2 C	G IJ Q2 C	G U V2 C	G U √2 B	G U					GENERAL NOTES:							
	Box 2 - Pr - Sample				1-1LP		1- 50	Ormi P	2-40ml vial		1-580ml P			3.	VELAP accreditation re Report MDL/LOQ and Total Metals: Al, Cd, C	estimated results	. · ·			
	: 2014	<b>6</b> 5	k 1: Matrix	umber of Bottles	SM 5210B		Ammonia (as N) -SM 1500 - NH <sub>3</sub> D	SM 5220D	C - SM 5310C	Total Metals 200,7 or 20 See notes for analyte Ils	ate - 300.0				 					
Sample ID Outfall 001		<u></u> 14:4≤	šw SW	ип (О	gg X	X SS X	X E 65	00 X	X 70 20	₹ X	X Sulfate					easurements - pH:	Temp:	Flow:	'	
Trip Blink	3/31	_	<u> </u>							X	-			Hele	libral litra k	onized by	K. Wilse	<u> 4.3.4</u>		
										<u> </u>	<u> </u>									
Clients Special In: Received by lab in	n Good Co		Yes_	No	Custod	y Seal Int	actY	es No	Tempera	ture upon an	rival	Receive	on Ice	Ye	esNo	·				
Describe problem Sampler Name (Print):	is, if any:	2122	cock	4/2/ Date: 2	14	yby (Siği		m)	4 31	in	Date: 4	131m	by (Sigi		d			Date:	Sample Storage	
Sampler Signature A					7.5A	Compar Name: #1 Reco	eived	er Ada	27 P050	Time: [] 100			Company #2AName: #2 Received by (Stanature):					Time:	Time Requested: 30 DYS ORG/6 MTHS INORG	
(Print): Sampler Signature:		-		Date: Time:		Compai Name:			)		Date: 1/	225	Compa Name:	ny j				Time:	_ MITHS RIVER	



TestAmerica Canton Sample Receipt Form/Narrative Login # : 3578   Canton Facility										
Client Draper Aden Site Name Climton Forge Cooler unpacked by:										
Cooler Received on 4/4/14 Opened on 4/4/14 Term Burns										
FedEx: 1st Grd Exp UTS FAS Stetson Client Drop Off TestAmerica Courier Other										
Test America Cooler # Foam Box Quent Cooler Box Other										
Packing material used: Bubble Wrap Foam Plastic Bag None Other										
COOLANT: Werlce) Blue Ice Dry Ice Water None										
1. Cooler temperature upon receipt										
IR GUN# A (CF +0 °C) Observed Cooler Temp. 4, 4 °C Corrected Cooler Temp. 4, 4 °C										
IR GUN# 4 (CF -1 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C See Multiple										
IR GUN# 5 (CF +1 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C Cooler Form										
IR GUN# 8 (CF +1 °C) Observed Cooler Temp.										
-Were custody seals on the outside of the cooler(s) signed & dated?  -Were custody seals on the bottle(s)?  Yes You										
3. Shippers' packing slip attached to the cooler(s)?										
4. Did custody papers accompany the sample(s)?  Yes No										
5. Were the custody papers relinquished & signed in the appropriate place? Yes No										
6. Did all bottles arrive in good condition (Unbroken)?										
7. Could all bottle labels be reconciled with the COC?										
8. Were correct bottle(s) used for the test(s) indicated?										
9. Sufficient quantity received to perform indicated analyses?										
10. Were sample(s) at the correct pH upon receipt?  Yes No. NA pH Strip Lot# HC391902										
11. Were VOAs on the COC?  Yes Vo										
12. Were air bubbles >6 mm in any VOA vials?  13. Was a trip blank present in the cooler(s)?  Yes No NA  Yes No										
13. Was a trip blank present in the cooler(s)?  Yes										
Contacted PM Date by via Verbal Voice Mail Other										
Concerning										
14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES  Samples processed by:										
14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES  Samples processed by:										
14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES  Samples processed by:  15. SAMPLE CONDITION										
14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES  Samples processed by:  15. SAMPLE CONDITION  Sample(s) were received after the recommended holding time had expired.										
14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES  Samples processed by:  15. SAMPLE CONDITION  Sample(s)										
14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES  Samples processed by:  15. SAMPLE CONDITION  Sample(s) were received after the recommended holding time had expired.										
14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES  Samples processed by:  15. SAMPLE CONDITION  Sample(s) were received after the recommended holding time had expired.  Sample(s) were received in a broken container.  Sample(s) were received with bubble >6 mm in diameter. (Notify PM)  16. SAMPLE PRESERVATION										
14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES  Samples processed by:  15. SAMPLE CONDITION  Sample(s)  were received after the recommended holding time had expired.  Sample(s)  were received in a broken container.  Sample(s)  were received with bubble >6 mm in diameter. (Notify PM)										

# Login Container Summary Report

Temperature readings:						
Client Sample ID	<u>Lab ID</u>	Container Type	Container pH	Preservative Added (mls)	Lot#	
OUTFALL 001	240-35781-D-1	Plastic 500ml - with Sulfuric Acid	<2			
OUTFALL 001	240-35781-E-1	Plastic 500ml - with Nitric Acid	<2			
TRIP BLANK	240-35781-A-2	Plastic 500ml - with Nitric Acid	<2			

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#### PUBLIC NOTICE BILLING INFORMATION FORM

I hereby authorize the Department of Environmental Quality to have the cost of publishing a public notice billed to the Agent/Department shown below. The public notice will be published once a week for two consecutive weeks in accordance with 9 VAC 25-31-290. C. 2.

Agent/Department to be billed:

Town of Clifton Forge

Owner:

Town of Clifton Forge

Applicant's Address:

P.O. Box 631

Clifton Forge, VA 24422

Agent's Telephone No:

540-863-2500

Authorizing Agent:

Signature

Facility Name:

Clifton Forge Water Treatment Plant

VPDES Permit No. VA0006076

Please return to:

Kevin Harlow

DEQ - Blue Ridge Regional Office

3019 Peters Creek Road Roanoke, Virginia 24019